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## Test 1312: International 484 Utility Diesel 8-Speed

Nebraska Tractor Test Lab

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# NEBRASKA TRACTOR TEST 1312 — INTERNATIONAL 484 UTILITY DIESEL 8 SPEED

## POWER TAKE-OFF PERFORMANCE

Power Hp (kW)	Crank shaft speed rpm	Fuel Consumption			Temperature °F (°C)			Barometer inch Hg (kPa)
		gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Cooling medium	Air wet bulb	Air dry bulb	

### MAXIMUM POWER AND FUEL CONSUMPTION

Rated Engine Speed—Two Hours (PTO Speed—555 rpm)								
42.42 (31.63)	2200	2.868 (10.856)	0.473 (0.288)	14.79 (2.914)	184 (84.3)	58 (14.5)	75 (23.8)	29.093 (98.244)

Standard Power Take-off Speed (540 rpm)—One Hour								
41.79 (31.16)	2141	2.822 (10.682)	0.472 (0.287)	14.81 (2.917)	184 (84.3)	59 (14.8)	75 (23.7)	29.095 (98.249)

### VARYING POWER AND FUEL CONSUMPTION—Two Hours

37.31 (27.82)	2276	2.590 (9.806)	0.486 (0.295)	14.40 (2.837)	183 (83.9)	59 (15.0)	75 (23.9)	.....
0.00 (0.00)	2415	0.922 (3.490)	.....	.....	181 (82.5)	58 (14.4)	74 (23.3)	.....
19.27 (14.37)	2351	1.737 (6.575)	0.630 (0.383)	11.10 (2.186)	181 (82.8)	59 (15.0)	75 (23.9)	.....
42.61 (31.77)	2200	2.869 (10.861)	0.471 (0.287)	14.85 (2.925)	185 (85.0)	58 (14.7)	74 (23.6)	.....
9.72 (7.25)	2384	1.334 (5.049)	0.959 (0.584)	7.29 (1.436)	181 (82.8)	59 (15.0)	75 (23.9)	.....
28.37 (21.16)	2311	2.136 (8.085)	0.527 (0.320)	13.28 (2.617)	182 (83.3)	59 (15.0)	75 (23.9)	.....
<b>Av</b> <b>Aw</b>	<b>22.88</b> <b>2323</b>	<b>1.931</b> <b>(7.311)</b>	<b>0.590</b> <b>(0.359)</b>	<b>11.85</b> <b>(2.334)</b>	<b>182</b> <b>(83.4)</b>	<b>59</b> <b>(14.9)</b>	<b>75</b> <b>(23.8)</b>	<b>29.093</b> <b>(98.244)</b>

## DRAWBAR PERFORMANCE

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption			Temp. °F (°C)			Barom. inch Hg (kPa)
					gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Cool- ing med	Air wet bulb	Air dry bulb	
Maximum Available Power—Two Hours 5th (1H) Gear											
36.00 (26.84)	2831 (12.59)	4.77 (7.67)	2198	5.75	2.823 (10.688)	0.549 (0.334)	12.75 (2.512)	188 (86.6)	61 (15.8)	82 (27.8)	28.625 (96.662)
75% of Pull at Maximum Power—Ten Hours 5th (1H) Gear											
29.97 (22.35)	2238 (9.96)	5.02 (8.08)	2282	4.36	2.420 (9.159)	0.565 (0.344)	12.39 (2.440)	186 (85.7)	67 (19.4)	84 (28.8)	28.688 (96.875)
50% of Pull at Maximum Power—Two Hours 5th (1H) Gear											
20.89 (15.58)	1507 (6.70)	5.20 (8.37)	2327	2.90	1.966 (7.441)	0.658 (0.400)	10.63 (2.093)	183 (83.9)	66 (18.9)	69 (20.6)	28.685 (96.865)
50% of Pull at Reduced Engine Speed—Two Hours 6th (2H) Gear											
20.70 (15.44)	1494 (6.65)	5.20 (8.36)	1694	2.87	1.716 (6.494)	0.580 (0.353)	12.07 (2.378)	186 (85.3)	70 (20.8)	76 (24.4)	28.690 (96.882)

### MAXIMUM POWER IN SELECTED GEARS

23.93 (17.84)	5500 (24.46)	1.63 (2.63)	2310	14.38	2nd (2L) Gear			185 (84.7)	62 (16.7)	84 (28.9)	28.650 (96.747)
36.20 (26.99)	4236 (18.84)	3.20 (5.16)	2198	8.81	3rd (3L) Gear			188 (86.7)	62 (16.7)	82 (27.8)	28.670 (96.814)
36.66 (27.34)	3239 (14.41)	4.24 (6.83)	2200	6.29	4th (4L) Gear			188 (86.4)	62 (16.7)	82 (27.8)	28.680 (96.848)
38.06 (28.38)	2988 (13.29)	4.78 (7.69)	2205	5.84	5th (1H) Gear			187 (86.1)	62 (16.7)	83 (28.3)	28.700 (96.916)
36.83 (27.47)	2068 (9.20)	6.68 (10.75)	2199	3.92	6th (2H) Gear			188 (86.4)	62 (16.7)	83 (28.3)	28.660 (96.781)

### LUGGING ABILITY IN 5th (1H) GEAR

Crankshaft Speed rpm		2205	1980	1757	1536	1333	1110
Pull—lbs (kN)		2988 (13.29)	3116 (13.86)	3302 (14.69)	3364 (14.96)	3364 (14.96)	3135 (13.94)
Increase in Pull %		0	4	11	13	13	5
Power—Hp (kW)		38.06 (28.38)	35.56 (26.52)	33.31 (24.84)	29.58 (22.06)	25.69 (19.16)	20.02 (14.93)
Speed—Mph (km/h)		4.78 (7.69)	4.28 (6.89)	3.78 (6.09)	3.30 (5.31)	2.86 (4.61)	2.39 (3.85)
Slip %		5.84	6.01	6.35	6.68	6.46	6.23

Department of Agricultural Engineering

Dates of Test: May 22-31, 1979

Manufacturer: INTERNATIONAL HARVES-  
TER CO., 401 North Michigan Ave., Chicago,  
Ill. 60611

**FUEL, OIL AND TIME:** Fuel No. 2 Diesel  
Cetane No. 49.0 (rating taken from oil company's  
typical inspection data) **Specific gravity converted**  
**to 60°/60° (15°/15°)** 0.8401 **Fuel weight** 6.995 lbs/  
gal (0.838 kg/l) **Oil SAE 30 API service classifi-**  
**cation** SC-SE/CA-CD **To motor** 1.600 gal  
(6.056 l) **Drained from motor** 1.568 gal (5.935 l)  
**Transmission and final drive lubricant** I. H. Hy-  
tran fluid **Total time engine was operated** 36.5  
hours

**ENGINE:** Make International Diesel **Type** 3  
cylinder vertical **Serial No.** 179DT2D372290\*  
**Crankshaft** lengthwise **Rated rpm** 2200 **Bore**  
**and stroke** 3.875" × 5.06" (98.4 mm × 128.5 mm)  
**Compression ratio** 15.0 to 1 **Displacement** 179 cu  
in (2933 ml) **Cranking system** 12 volt **Lubrica-**  
**tion pressure** **Air cleaner** two paper elements **Oil**  
**filter** one paper cartridge **Oil cooler** radiator for  
hydraulic and transmission oil **Fuel filter** two  
paper elements **Muffler** vertical **Cooling**  
**medium temperature control** one thermostat

**CHASSIS:** **Type** standard **Serial No.**  
B480003B000956-X- **Tread width** rear 52" (1321  
mm) to 76" (1930 mm) front 52" (1320 mm) to 72"  
(1829 mm) **Wheel base** 72.8" (1849 mm) **Center of**  
**gravity** (without operator or ballast, with  
minimum tread, with fuel tank filled and tractor  
serviced for operation) Horizontal distance for-  
ward from center-line of rear wheels 26.9" (683  
mm) Vertical distance above roadway 29.7" (754  
mm) Horizontal distance from center of rear wheel  
tread 0" (0 mm) to the right/left **Hydraulic control**  
**system** direct engine drive **Transmission** selec-  
tive gear fixed ratio **Advertised speeds mph**  
**(km/h)** first 1.3 (2.1) second 1.8 (3.0) third 3.6 (5.6)  
fourth 4.6 (7.4) fifth 5.1 (8.3) sixth 7.0 (11.3)  
seventh 13.7 (22.0) eighth 17.6 (28.4) reverse 1.6  
(2.6), 2.2 (3.6), 4.3 (6.9), 5.5 (8.9) **Clutch** single  
dry disc operated by foot pedal **Brakes** single wet  
disc hydraulically operated by two foot pedals  
which can be locked together **Steering** hydrosta-  
tic **Turning radius** (on concrete surface with  
brake applied) right 108" (2.74 m) left 108" (2.74  
m) (on concrete surface without brake) right 120"  
(3.04 m) left 120" (3.04 m) **Turning space diame-**  
**ter** (on concrete surface with brake applied) right  
226" (5.74 m) left 226" (5.74 m) (on concrete sur-  
face without brake) right 250" (6.35 m) left 250"  
(6.35 m) **Power take-off** 540 rpm at 2141 engine  
rpm.

**REPAIRS and ADJUSTMENTS:** No repairs or  
adjustments.

**REMARKS:** All test results were determined  
from observed data obtained in accordance with  
SAE and ASAE test code or official Nebraska test

TRACTOR SOUND LEVEL WITHOUT CAB		dB(A)
Maximum Available Power—Two Hours		96.5
75% of Pull at Maximum Power—Ten Hours		96.0
50% of Pull at Maximum Power—Two Hours		97.0
50% of Pull at Reduced Engine Speed—Two Hours		94.0
Bystander in 8th (4H) gear		84.0
<b>TIRES, BALLAST AND WEIGHT</b>		
<b>Rear Tires</b>	—No., size, ply & psi (kPa)	With Ballast
• Ballast	—Liquid (each)	Two 14.9-28; 6; 16 (110)
	—Cast Iron (each)	700 lb (318 kg)
		578 lb (262 kg)
<b>Front Tires</b>	—No., size, ply & psi (kPa)	Without Ballast
Ballast	—Liquid (each)	Two 14.9-28; 6; 16 (110)
	—Cast Iron (each)	None
		None
<b>Height of Drawbar</b>		Two 9.5L-15; 6; 36 (250)
<b>Static Weight with Operator—Rear</b>		Two 9.5L-15; 6; 36 (250)
Front		None
Total		77 lb (35 kg)
		12.5 in (320 mm)
		5710 lb (2590 kg)
		2000 lb (907 kg)
		7710 lb (3497 kg)
		3155 lb (1431 kg)
		1845 lb (837 kg)
		5000 lb (2268 kg)

procedure. Temperature at injection pump return was 145°F (62.8°C). Five gears were chosen between tire tangential pull limit and 10 mph (16.1 km/h).

We, the undersigned, certify that this is a true and correct report of official Tractor Test 1312.

LOUIS I. LEVITICUS  
Engineer-in-Charge

G. W. STEINBRUEGGE, Chairman  
W. E. SPLINTER  
K. VON BARGEN  
Board of Tractor Test Engineers



International 484 Utility Diesel